Remarks

Claim Objections

Independent claims 31 and 33 were objected to because of the language "adapted to" in the claims. These claims have been amended and the objectionable language has been deleted. Applicant respectfully requests the claim objections be withdrawn and that currently amended independent claims 31 and 33 be allowed.

35 U.S.C. §103(a) Claim Rejections

Claims 31-33, 44 and 45 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,794,248 to Gray (hereinafter Gray) in view of WO/2008/077447 to Masotti (hereinafter Masotti).

Gray discloses elevator doors 10, 20, with closure edges 11, 21, that touch when the doors are closed. There are emitters 12, 22, and sensors 13, 23, that define first and second arrays on the closure edges 11, 21. The emitters may be:

> light bulbs, LED devices, or any radiation emitting device, for example an infrared emitter. ;

The sensors may be:

> any device sensitive to radiation, and may be photodiodes or phototransistors.

Each sensor receives radiation received from a plurality of paths. In addition, the area in which the sliding door moves is monitored for objects "as the door closes." (Gray, Col. 1, line 68; see also Col. 2, line 7; Col. 2, line 9; Col. 2, line 14; Col. 2, line 22; Col. 2, line 24; Col. 3, line 48; Col. 4, lines 29-30). The preamble of the claim 1 in Gray recites, in part, "*A method for detecting the presence of an object in the path of a closing sliding door . . .*"; and the preamble of claim 2 recites, in part, "*A detection system for detecting the presence of an object in the path of a closing sliding door . . . .*" Gray only discloses the use of a single emitting and sensing device at a time. This is structurally very different than the claimed invention which calls for both

transmitter and/receiver elements and an array of illuminable elements. The fact that Gray is limited to one technology and the claimed invention calls for two technologies weighs in favor of a finding the claimed invention is not obvious. In addition, it appears the device of Gray is limited, because it is operative only when the doors are in the process of sliding to the closed position.

Masotti is directed to an optical source and receiver. There is a bar 1 and an optical emitter 5 that faces an end 1A of the bar 1. The ray emitted from the emitter 5 passes through the end 1A and strikes the lateral surface 1B of the bar 5, and is and reflected to the interior of the bar 1 such that the ray reaches the end surface opposite 1A. The outer surface of the bar 5 is ground to form a diffusing strip 11 such that the rays striking the strip 11 are diffused, reflected or refracted to the exterior of the bar 5. A second bar is provided with a diffusing strip which collects the light beam generated by the diffusing strip 11 of the first bar 5. The second bar serves as an optical receiver and has photodiodes to determine the intensity of the light collected. An object passing between the bars decreases the optical signal, which may be used to sound an alarm. The bar 1 may be used by itself for lighting. In another embodiment, Masotti discloses an infrared emitter and a photodiode sensor. The Masotti optical source and receiver device is always in the "on position" in that the Masotti device never ceases to operate after having been turned on. In addition, Masotti is structurally very different than the claimed invention which calls for both transmitter and/receiver elements and an array of illuminable elements. The fact that Masotti is limited to one technology and the claimed invention calls for two technologies weighs in favor of a finding the claimed invention is not obvious.

Thus, Gray is different than the claimed invention, because Gray fails to disclose both infrared transmitter and receiver elements and an elongate arrays of illuminable elements as claimed. Indeed, the Gray disclosure is limited to *one* technology to emit the radiation and *one* technology to detect the radiation. The various emitting and detecting technologies disclosed in Gray are alternatives. Indeed, nowhere does Gray disclose simultaneously utilizing different emitting and sensing technologies. Similarly, Masotti is different than the claimed invention,

because Masotti fails to disclose both infrared transmitter and receiver elements and elongate arrays of illuminable elements. Indeed, the Masotti disclosure is limited to *one* technology to emit the radiation and *one* technology to detect the radiation. The various emitting and detecting technologies disclosed in Masotti are alternatives. Nowhere does Masotti disclose simultaneously utilizing different emitting and sensing technologies. Thus, neither of the cited references disclose two technologies as claimed, and this difference weighs heavily in favor of finding that the currently amended independent claim 31 is not obvious.

In addition, the Examiner indicated the following in the Office Action dated July 21, 2008: "*it is inferred by the examiner that one of ordinary skill in the art would be motivated to utilize the teachings of Masotti to have both an IR transmitter and/or receiver element and to have an illumination source . . . it would have been obvious . . . to have modified the invention of Gray such that the illumination source was visible to people as taught by Masotti so as to guide people in dimly lit situations.*" (see Office Action dated July 21, 2008, page 3, fifth line of third full paragraph and continuing to last line of fourth full paragraph). Applicant respectfully disagrees with the inference made in the Office Action, especially in view of the fact that each of the cited references only discloses the use of one technology and not two as claimed in currently amended independent claim 31. Indeed, it appears to Applicant that one having ordinary skill in the art would have recognized the different sensing technologies disclosed in Gray and Masotti, and would have concluded that only one sensing technology was required for detection purposes. Indeed, the person having ordinary skill in the art would have to make a significant mental leap to conclude that multiple technologies should be used simultaneously in the manner claimed. However, such extraordinary skill in the art is not the standard for assessing obviousness. Thus, the claimed invention is not believed to be obvious. Accordingly, Applicant respectfully requests further clarification of the basis of the inference made by the Examiner in the Office Action. Alternatively, Applicant respectfully requests that the rejection of independent claim 31 be withdrawn and that currently amended independent claim 31 be allowed.

For the reasons presented above, Applicant respectfully requests the rejection of

independent claim 31 and dependent claim 32 be withdrawn, and that currently amended independent claim 31 and dependent claims 32 and 44 be allowed.

Regarding independent claim 33, Applicant reasserts all of the arguments made in connection with the rejection of independent claim 31 as if more fully set forth herein. Accordingly, Applicant respectfully requests the rejection of independent claim 33 and dependent claim 45 be withdrawn and that these claims be allowed.

Dependent claims 34-38 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gray in view of Masotti in further view of U.S. Patent No. 5,149,921 to Picado (hereinafter Picado). At the outset, Applicant reasserts the arguments made in connection with the rejection of independent claims 31 and 33 as if more fully set forth herein.

Picado discloses an elevator car 29 with sliding doors 39 and 40. A system 30 is disposed in a doorway 32 formed in the frame 34. Infrared transmitted stations are disposed on the first door 40, and door 39 has receiver stations. A circuit board 60 is mounted beneath a cover plate 69, and the cover plate 69 and board 60 are mounted between channels in an extruded frame 64.

Picado is different than the claimed invention in that it fails to disclose both infrared transmitter and receiver elements and an elongate arrays of illuminable elements. Thus, even if Picado were to be combined with the Gray and Masotti as proposed, one having ordinary skill I in the art would still not arrive at the claimed invention. Accordingly, claims 34-37 are not believed to be obvious. In addition, dependent claim 34 depends from dependent claim 32 which depends from currently amended independent claim 31 which is believed to be allowable, and dependent claims 35-37 depend from currently amended independent claim 33 which is believed to be allowable. For this reason alone these claims are believed to be allowable. Accordingly, Applicant respectfully requests the rejection of dependent claims 34-37 be withdrawn and that dependent claims 34-37 be allowed.

With respect to the rejection of dependent claim 38, the Office Action indicated "*Gray teaches the infrared elements (13) extend vertically on a first side of the device, and a series of*

illuminable elements (12) also extend vertically." (see Office Action dated July 21, 2008, page 6, fourth paragraph). Applicant respectfully requests clarification, because the disclosure of Gray is clear in that component 13 is a sensor sensitive to the radiation of the emitter 12. (see Col. 2, lines 54-62). Alternatively, Applicant respectfully requests the rejection be withdrawn and the claim be allowed, because dependent claim 38 depends from currently amended independent claim 33, which, for the reasons previously indicted is believed to be allowable.

Dependent claim 39 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gray and Masotti and Picado and in further view of U.S. Patent No. 5,142,152 to Boiucaner (hereinafter Boiucaner).

Boiucaner discloses a sliding door sensor 10 used in a system 12 having a pair of moving panels 12 and 16. The sliding door sensor 10 pulses infrared radiation. The radiation is reflected back to the receiver of the sensor 10. The sensor includes a housing 20 that is mounted to the underside of the door header. The housing houses the IR emitters 24, 25 and receivers 26, 27. transmitters and receivers. An optical barrier 29 is positioned between the receivers 26, 27, and an optical barrier is positioned between the emitter and receiver sections.

Boiucaner is different because all the emitter and receiver elements are mounted to the header of the door. Indeed, this reference actually teaches away from the claimed invention because all components are mounted on a single immovable header. Thus, this difference weighs heavily in favor of a finding that the claimed invention is not obvious. In addition, dependent claim 39 depends from currently amended independent claim 33 which, for the reasons indicated above, is believed to be allowable. Accordingly, Applicant respectfully requests that the rejection of dependent claim 39 be withdrawn and that dependent claim 39 be allowed.

Dependent claim 40 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gray and Masotti in further view of U.S. Patent Publication No. 2006/0243740 to Reynolds et al. (hereinafter Reynolds et al.).

Reynolds et al. discloses a method for dispensing a measured quantity of material in a

hands free manner. It appears this reference was cited because it discloses shields 310, 312 for isolating radio frequency signals. Applicant points out that Reynolds et al. is a nonanalogous art because the dispenser disclosed therein is clearly outside of Applicant's field of endeavor, and because it is not in any way pertinent to particular problem of illuminating and sensing doors. Accordingly, Applicant respectfully requests that Reynolds et al. be removed as a reference used to deny the patentability of the claimed invention. In addition, dependent claim 40 depends from currently amended independent claim 33 which, for the reasons indicated above, is believed to be allowable. Accordingly, Applicant respectfully requests that the rejection of dependent claim 40 be withdrawn and that dependent claim 40 be allowed.

Dependent claim 41 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gray, Masotti, and Picado and in further view of EP 08259156 to Nakamori. Nakamori discloses a device for flashing lights as a car door is closed. Dependent claim 41 depends from currently amended independent claim 33 which, for the reasons indicated above, is believed to be allowable. Accordingly, Applicant respectfully requests that the rejection of dependent claim 39 be withdrawn and that dependent claim 40 be allowed.

Dependent claims 42 and 43 were rejected under 35 U.S.C. §103(a) as being unpatentable over Gray and Masotti and in further view of U.S. Patent No. 5,161,879 to McDermott (hereinafter McDermott). McDermott discloses flashlight for covert operations. Dependent claim 42 depends from currently amended independent claim 31, and dependent claim 43 depends from currently amended independent claim 33, which, for the reasons indicated above, are both believed to be allowable. Accordingly, Applicant respectfully requests that the rejection of dependent claims 42 and 43 be withdrawn and that dependent claim 42 and 43 be allowed.

Independent claim 46 was rejected under 35 U.S.C. §103(a) as being unpatentable over Gray in view of U.S. Patent No. 5,420,430 to Trett (hereinafter Trett). The Office Action acknowledges that Gray and Trett do not disclose the "*light-spreading lens in one axis being cylindrical with an elliptical outer curvature and an inner curvature such that the light is constrained to leave the lens with a generally equal light intensity at all points on the outer*

curvature." (see Office Action dated July 21, 2008, page 11, fourth full paragraph).

Applicant points out that Trett teaches the desirability of having a non-uniform light output (see Fig. 3), such that as the elevator doors close, the increase in light intensity associated with the approach of the light sources to the receptors is compensated for by a decrease in light intensity associated with the increased angle of incidence (see Fig. 7). Thus, Trett clearly teaches away from what is claimed in independent claim 46. Indeed, the teachings of Trett are clearly incompatible with what is claimed in independent claim 46. Thus, this difference weighs heavily in favor of a finding independent claim 46 is not obvious.

For these reasons, Applicant respectfully requests reconsideration of the rejection of independent claim 46, that the rejection of the claim be withdrawn and that the independent claim 46 be allowed.

Claims Not Mentioned In The Office Action

It appears to Applicant that claims 47-50, which depend from independent claim 46, were not addressed in the Office Action (Summary Sheet or Detailed Action) dated July 21, 2008. The United States Patent and Trademark Office's private PAIR website clearly shows that claims 47-50 do appear on page 6 of the Preliminary Amendment that was filed on October 20, 2005. Applicant points out that claims 47-50 appear in the "Applicant Arguments/Remarks Made In An Amendment" section on the USPTO's website.

Applicant respectfully requests that the Examiner confirm the status of claims 47-50, and whether these claims are allowed.

Applicant respectfully request favorable action.

If the Examiner has any further questions or concerns, the Examiner is invited to contact the Applicant's undersigned attorney/agent.

Respectfully submitted,
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